

S. W. CRAVEN.  
Fruit-Drying House.

No. 218,495

Patented Aug. 12, 1879.

Fig. 1.

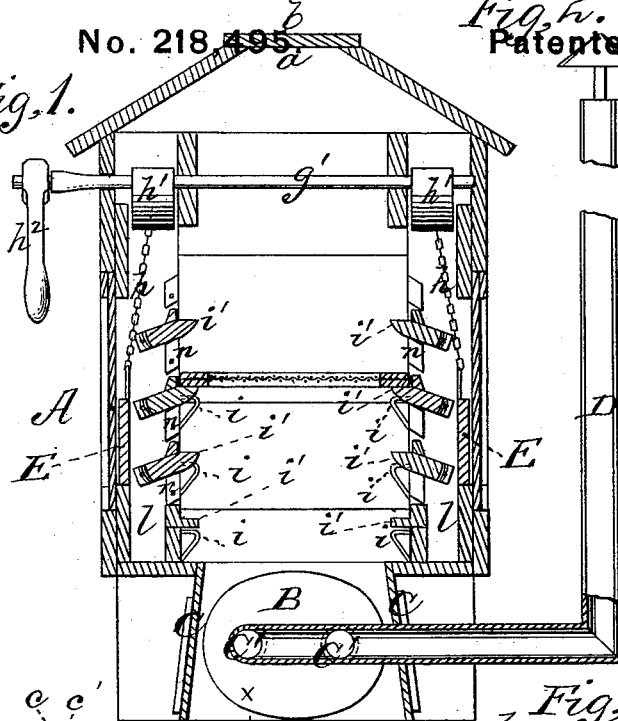
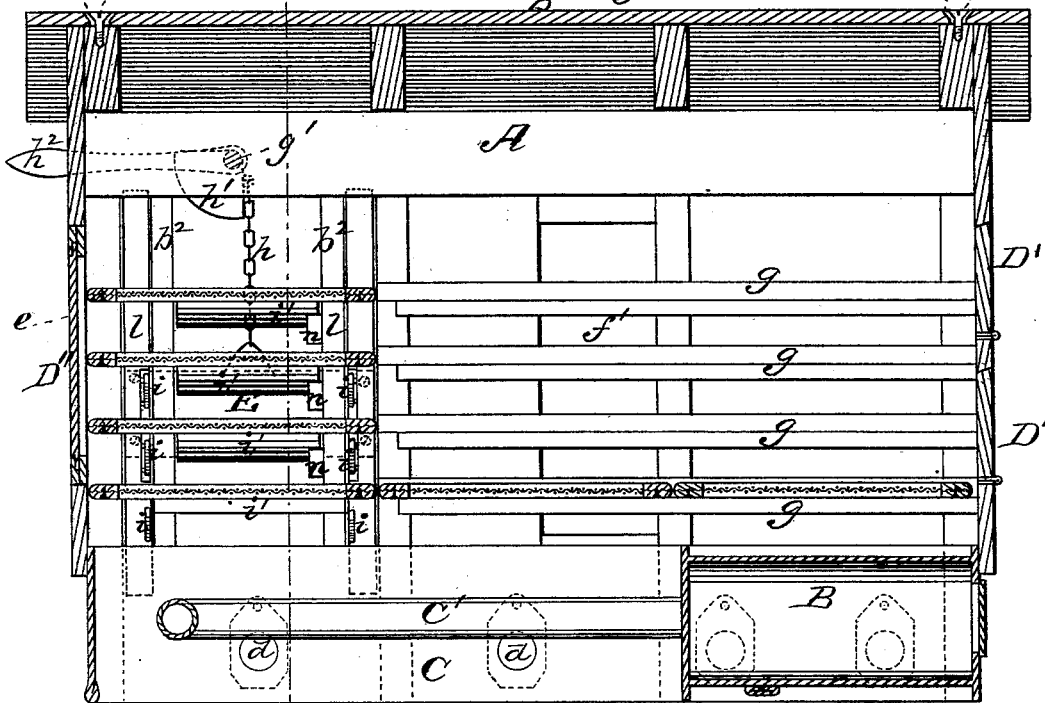


Fig. 3.



WITNESSES

Villette Anderson  
J. J. Chasi.

INVENTOR

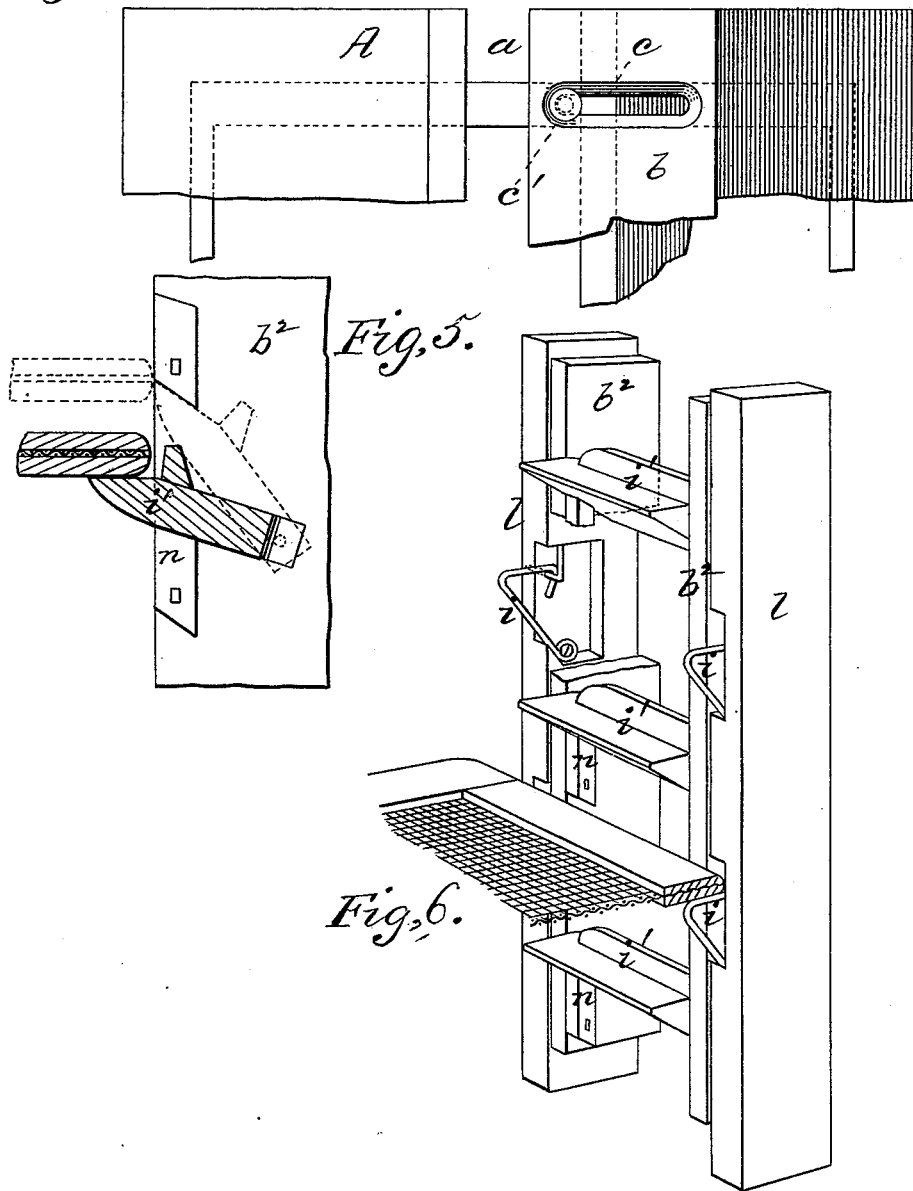
Samuel W. Craven,  
by E. W. Anderson.

ATTORNEY

S. W. CRAVEN.  
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*Fig. 4.* No. 218,495.

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# UNITED STATES PATENT OFFICE.

SAMUEL W. CRAVEN, OF JONESBOROUGH, ILLINOIS.

## IMPROVEMENT IN FRUIT-DRYING HOUSES.

Specification forming part of Letters Patent No. **218,495**, dated August 12, 1879; application filed June 21, 1879.

### *To all whom it may concern:*

Be it known that I, SAMUEL W. CRAVEN, of Jonesborough, in the county of Union and State of Illinois, have invented a new and valuable Improvement in Fruit-Drying Houses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical cross-section of my improved dry-house, taken through *x x*, Fig. 3. Fig. 2 is a side view of the rear portion of the house, showing the elevating sash. Fig. 3 is a longitudinal vertical section of the dry-house; and Figs. 4, 5, and 6 are details, respectively, of the top-ventilator, the vibrating ledge, and elevating sash.

This invention has relation to improvements in houses for drying fruits, vegetables, meats, and other like articles of food; and the nature of the invention consists in the arrangement, novel construction, and operation of the devices used, whereby very desirable results are obtained, as will be hereinafter more fully set forth.

In the annexed drawings, the letter A designates a house-like structure having a usually gabled roof, the apex of which is truncated, thus forming an opening, *a*, the dimensions of which may be regulated at pleasure by means of an adjustable slide, *b*. This slide has in it transverse slots *c*, through which pass guide-bolts *c'*, the said bolts being screwed into the roof or roof-frame, and serving to guide the said valve or slide during its adjustments. At the bottom of this house is a metallic furnace, B, of suitable dimensions, and situated at one end thereof, which furnace is inclosed within a metallic or other casing, C, and is provided with two or more flues, C', uniting at their rear ends, and discharging the products of combustion into a smoke-stack.

The casing C has at each side a number of openings, *d*, each of which is closed by a vibrating adjustable door, *d'*, that, being more or less open, supply more or less cool air to the interior of the house, and thus prevent

the air of the said house from being unduly heated.

The flues C' extend from the rear of the furnace to the corresponding end of the house, and are sufficiently far apart to allow fresh air to circulate freely between them. At the furnace end of the house are made two openings, the one above the other, each of which is closed by a hinged door, D', the said openings being designed, the lower one to admit the fruit-trays into the house, and the upper one to remove the same therefrom.

The rear end of the house is closed by a door, D'', that is kept in place by suitable buttons or their equivalents, and has a central sliding panel, *e*, closing and discovering a narrow opening therein, the object of which will hereinafter be explained.

At one or both sides of the structure is an opening, *f*, closed by a transparent plate, *f'*, through which light is admitted into the house and the condition of the fruit upon the trays may be inspected. Inside of the house are arranged the parallel ledges *g*, commencing at the furnace end of the house and extending within the length of one of the trays of its rear end. In the interval between the ends of the ledges *g* and the rear end of the house, and at each side thereof, is arranged a vertically-movable sash, E, each of which is connected by a chain, *h*, to an eccentric, *h'*, on the end of a rock-shaft, *g'*, arranged at the top of the house, and actuated from the outside by a lever, *h''*, or its equivalent.

The side bars, *l*, of these frames E are provided with gravitating wire catches *i*, arranged on a level with each other and at a distance apart corresponding to that of the ledges *g*. These catches are angular in form and arranged in recesses in the said side bars. They readily swing backward into their recesses under circumstances hereinafter set forth, and as readily gravitate out of the same with their upper faces horizontal. They are usually made of stout wire, bent to form an eye at one end, and a stop at the other, which holds them against undue outward gravitation.

In between the side bars, *l*, of the sashes E are the fixed beams *b''*, carrying the stationary gravitating ledges *i'*. The journals at the ends

of these ledges have their bearings in the beams  $b^2$ , and are prevented from gravitating too far out by a stop,  $n$ , secured to the said beam, as shown in Fig. 1. These ledges are continuous with the ledges  $g$  aforesaid, and are capable of swinging back beyond the outer faces of the beams  $b^2$ .

In practice the lowest of the catches  $i$  of the sash-frames will be stationary, it not being necessary that it should vibrate.

The operation is as follows: The trays, which consist of a rectangular wooden or metallic frame and a wire-cloth material stretched over the same, are loaded with fruit and passed successively through the lower door,  $D$ , upon the lower tier of ledges until the latter is fully occupied, the rearward tray being then upon the lowest of ledges,  $i'$ . The second tier may then be filled in the same manner. The doors are then closed and the fruit on these trays subjected to the dry heat radiated from the flues  $C'$  for a certain time. Those trays nearest the furnace are subjected to the greatest heat, and their contents are consequently most rapidly deprived of moisture. This being partially accomplished, the lever  $h^2$  is drawn down, the sashes  $E$  raised, and the rearward tray or trays carried with them until they strike against the under side of the ledges  $i'$ , above the same, causing the said ledges to swing back and allow the trays to pass. This being accomplished the lever  $h^2$  is released, the sashes fall, and the catches  $i$ , coming in contact with the trays, swing in and pass under the trays to

their former position. Space is now left on the lowest ledges  $i'$  for the reception of a second pair of trays, which are placed thereon by introducing a second pair of trays at the front end of the ledges  $g$ , and pushing those in rear back as far as they will go. When the ledges  $i'$  are full of trays the sliding panel  $e$  is pushed back, disclosing a narrow opening, and those trays on the top ledges  $i'$  pushed back. This is continued until the trays on the upper ledges abut against the upper door,  $D'$ . This is then opened, and the end trays removed with their contents properly cured. Thus, by following this plan, the dry-house is kept constantly going, and contains fruit in every stage of dryness.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with a dry-house having the ledges  $g$  and the upper and lower doors  $D$   $D'$ , of fruit-trays sliding rearward on the lower ledge, elevating sashes  $E$  at the rear ends of said ledges, having the gravitating catches  $i$ , and a stationary frame,  $b^2$ , having the vibrating ledges  $i'$ , in continuation of the said ledges  $g$ , substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SAMUEL WORDEN CRAVEN.

Witnesses:

JOSEPH H. SAMSON,

A. POLK JONES.